

**Subject: glowbugs V1 #232**  
**glowbugs**

**Wednesday, January 28 1998**

**Volume 01 : Number 232**

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**Date: Tue, 27 Jan 1998 07:05:34 -0500**  
**From: "Forrest B. Snyder, Jr." <fbsnyder@mitre.org>**  
**Subject: RE: Origin of CQ**

My take is that CQ was short for "Come Quick". CQD was short for "Come = Quick--Danger" and was easy to confuse with CQ. As mentioned below, SOS = (Save Our Souls/Save Our Ship) was implemented because it is easily = recognized even through heavy static.

Forrest Snyder  
"Sure, it's 1936 technology. But it's GOOD 1936 technology."

- -----Original Message-----

**From:** Sandy W5TVW [SMTP:ebjr@worldnet.att.net]  
**Sent:** Tuesday, January 27, 1998 1:13 AM  
**To:** Terry Dobler; glowbugs@www.atl.org  
**Subject:** Re: Origin of CQ

At 07:13 PM 1/26/98 -0700, you wrote:

>Gang,  
>  
> My daughter went to Titanic this weekend and started asking  
>questions I couldn't answer. Where did CQ originate, also CQD  
>and SOS and why the change from CQD to SOS. I remember them  
>being discussed some time back but couldn't find them.  
>  
>Terry KJ7F  
> =20  
>  
>kj7f@micron.net (Boise, Idaho) http://netnow.micron.net/~kj7f  
>  
> I always assumed CQ was derived from "seek you". I do know that  
the change from CQD to SOS was done to prevent confusion in situations  
where signals were poor in a high noise level. There is nothing that is  
as distinctive as the group SOS send as one group (no interletter =  
spaces)  
thusly ...\_ \_ \_ ...  
73,  
E. V. Sandy Blaize, W5TVW  
"Boat Anchors collected, restored, repaired, traded and used!"  
417 Ridgewood Drive  
Metairie, LA., 70001

\*\*860 Hartley 'ECO' construction "on hold"\*\*\*\*  
\*\*\* Looking for a TRC-10 transceiver \*\*\*\*\*  
\*\*\* Looking for an RAL receiver \*\*\*\*\*

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**Date: Tue, 27 Jan 1998 07:17:17 -0700 (MST)**  
**From: Terry Dobler <kj7f@micron.net>**  
**Subject: Thanks - CQD**

Thanks to all who replied about the origin and meaning of  
CQ, CQD and SOS. I passed the info on to my daughter.

Terry KJ7F  
kj7f@micron.net (Boise, Idaho) http://netnow.micron.net/~kj7f

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**Date: Tue, 27 Jan 1998 13:55:58 -0500 (EST)**  
**From: leel@digital.net**  
**Subject: precision sig gen**

Hi Gang

I recently aquired a precision model 200c sig gen.  
However the instruction book while very usefull  
does not have the correct schematic.  
The schematic shown uses a 6au5 ,6u8 and a 5y3

mine must be an older model as it uses a 80,  
6c5and a 6sj7. If anybody has the correct  
diagram for this older model, I would sure appreciate it.  
Will be glad to pay any costs to get schematic thanks 73 73 73  
MY add is in my sig.

Thank the good LORD for all that you have!!!

67yr old semi disabled senior trying to get code speed to 13wpm  
(stroke got my eyesight, balance & coordination) SO ONLY BA'S NO SOLID STATE  
Leon (lee) Wiltsey 4600 Lake Haven blvd Sebring fl. 33872 KF4RCL TECK+

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Date: Tue, 27 Jan 1998 12:33:34 -0700 (MST)  
From: no-spam <[toyboat@freenet.edmonton.ab.ca](mailto:toyboat@freenet.edmonton.ab.ca)>  
Subject: RF Chokes for Shunt-Feed - Homebrew

Hello All,

I was reviewing some glowbug stuff about RF chokes from about a year and a bit ago, because I want to crank out some plate chokes of between 100 microHenries and 1 mH. However, it occurred to me that although single-layer solenoid chokes will work well for series feed in Hartleys, they might not work well in a parallel-feed arrangement into a pi-network with a crystal oscillator or amplifier.

Series-feed apparently places less voltage across the choke, and design is less critical. Series resonance can heat up and destroy chokes of solenoid design, in some cases, in parallel-feed.

I noted that Handbook transmitters and amplifiers of '50s design use Pi-wound chokes exclusively at HF for lower power (1mH to 2.5mH).

High-powered amplifiers use what appears to be single-layer solenoid chokes of 100 micro-Henries sometimes. Other times they used a choke which, while not appearing pi-wound, doesn't seem to be solenoid-wound either.

One amplifier used a multi-band homebrew choke of solenoid design with several closewound coils in series, each with less turns than the previous one. It was made by winding on a cylindrical ceramic form, leaving a 1/8" space between windings, but winding the whole choke as one continuous length of wire. (80-40-20-15-10M)

100 micro-Henry chokes of single-layer solenoid design seem practical to wind, without being too large to stick under a chassis.

Will single-layer solenoid chokes of 100 micro-Henries work well in parallel-feed applications, for 75 Watts input or less? (80/40M)

Would 1mH chokes be a minimum for the average (80/40m) glowbug rig?

As always I appreciate any help from the group.

-----  
shane<[toyboat@freenet.edmonton.ab.ca](mailto:toyboat@freenet.edmonton.ab.ca)>

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Date: Tue, 27 Jan 1998 09:40:26 -1000  
From: Jeffrey Herman <[jeffreyh@hawaii.edu](mailto:jeffreyh@hawaii.edu)>  
Subject: RE: Origin of CQ (fwd)

Gang,  
CQ originated on the telegraph lines - it does not mean "come quick" (heck, the other fellow on the wire might have been dozens if not hundreds of miles away - you think he's going to hop on his horse and "come quick"??). It also does not mean "seek you" (we'd be using "SY" if that were the case).

Why the land-line operators chose those pair of letters is lost to history.

73,  
Jeff KH2PZ

---

Date: Tue, 27 Jan 1998 10:01:05 -1000  
From: Jeffrey Herman <jeffreyh@hawaii.edu>  
Subject: Origin of CQ (fwd)

My daughter went to Titanic this weekend and started asking questions I couldn't answer. Where did CQ originate, also CQD and SOS and why the change from CQD to SOS. I remember them being discussed some time back but couldn't find them.  
Terry KJ7F

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Hi Terry,  
Originally, CQ was used on the landlines; its origin is lost to history. It was used as the general call to all operators up and down the telegraph wire. It also preceeded the sending of the time signal.

When wire telegraphy became wireless telegraphy, CQ continued to be the general call. It was also used as the first distress call. The Marconi Company thought that, for a distress call, it didn't invoke enough attention, so they ordered their operators to append a D at the end: CQD - the General Call followed with a D for "distress." At the same time, the German ships were using SOE as their distress call. At the second Berlin Radio Conference (1906), the body felt the need to have a worldwide universal distress signal; Marconi reps of course wanted to continue with CQD, the Germans wanted SOE. It's unknown to me why they didn't consider CQD\*. Regarding SOE, they felt the "E" might be missed due to QRM/QRN. It was decided that SOS (sent as one single character!) would be the most distinctive of all the submitted proposals.

See: Schroeder's Contact\_At\_Sea  
Baarslag's SOS\_To\_The\_Rescue

Jeff KH2PZ (student of maritime wireless history)

\*I have my suspicions - Marconi was in disfavor due to his severe "no intercommunication policy" between his operators and operators of other companies. It caused a terrible situation on the airwaves, with much hostility between operators of competing companies...

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Date: Tue, 27 Jan 1998 15:21:57 -0500 (EST)  
From: "Robert D. Keys" <rdkeys@seedlab1.cropsci.ncsu.edu>  
Subject: Re: [CW] Information

> Just wanted the group to know that I am progressing quite nicely with  
> code practice. Thanks to you all! My next question: I would like to  
> build a single tube receiver and single tube transmitter for 40  
> meters...for the Novice band right now. Any ideas of where I can find  
> that info? I know, I'm going to get asked why I want to build it with  
> tube technology. The answer is...I just like tubes. A long time ago I  
> had an old Drake. I loved the glow of the tubes. Besides, they're kind  
> of forgiving unlike transistors...and a little more fun perhaps(?)  
>  
> 73,  
> Dan, N9HBH

Yer most welcome.....

Dan.... I will echo this to the Glowbugs mailing list, where we build all kinds of OT vacuum tube gear (mostly CW, of course). There are a lot of fine folks there that can help you along. The Glowbugs archives are at: <ftp://piobaire.mines.uidaho.edu/pub/Glowbugs> and the digests are archived on the internet but I forget the exact pointer (someone can

pass the AB4EL archive URL please --- he archives lots of handson ham building newslsts). The listowner Conard/WS4S (ws4s@infoave.net), can sign you up if you like, if you send him an email or he sees this.

Congratulations on your CW progress. If you are interested, we have a group that meets with their glowbugs and boatanchors on the TV rock xtal frequency of 3579.545 khz, nightly after dark but usually around 0300Z or later. That is a good place to run the OT gear and plys de OT CW at the same time. The folks there are not speed merchants, but usually plunk along at 10-20wpm (unless it gets quiet and ol' Dale/AD4YH stokes up his DX-40 KW sending set at QRQ, and I fires up ol' Grandma Hartley with her hot 211 bottle.....{:+}.....). It is a good use for old TV rocks (to send CW of course!).

There is nothing wrong with vacuum tubes, and for all practical purposes, CW has not changed much since 1914 when Hartley and Colpitts developed their oscillator designs (I will discount Poulsen's arc converter as a CW transmitter for modern folks though). It is a little harder to get the OT gear to pump CW QSK QRQ, than the appliance boxes, but not by too much. It is quite fun to run a good Hartley oscillator and a Detector and One-step on CW, if they are well made and you learn how to keep that fine warm glow stoked up. It is quite fun to run a little breadboard 1-bottle-glowing-puffer with a 6L6 or whatever, too. And likewise, it is fine fun to resurrect an' ol' DX-35 or such and stokes its fires again to make that CW musick.

Maybe we will see you there sometime.

(Sorry for the adverisement, but it is about CW --- the homebrewed way!  
Kudos to him fer askin!)

DE NA4G/Bob UP

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Date: Tue, 27 Jan 1998 12:53:49 -0800 (PST)  
From: Ken Gordon <keng@uidaho.edu>  
Subject: Xtal Oscillator tubes/circuits...

Finally copied an article from March 1950 QST, page 28. Which confirmed many things I "knew" from experience, but had no direct, quotable, evidence for.

Thanks very much to who ever mentioned it to me.

I have said for many years that the 6AG7 was the best oscillator tube for use in our BA rigs, and this article proves it.

The 6V6, 6F6, 6L6, etc fall FAR short of the 6AG7 in this.

In the BC-610, for instance, if the 6V6 crystal oscillator were simply re-wired for the 6AG7 most of the problems with keying, chirp, and drift would go away, the crystal current would be lower, and the available drive would be greater.

My question to the group, since I do not have any very thorough tube data books, is what more modern tube would closely exhibit the important parameters of the 6AG7, since the 6AG7 is rather large and needs an octal socket? On a very surface examination, the 6CD6 comes pretty darned close, but that tube is getting hard to get too. I am not particularly concerned about plate dissipation, since low drive levels can be amplified, but the other factors such as Gm, plate resistance, interelectrode capacitances, internal shielding, etc., would seem to me to be more critical.

If there is enough interest, I will scan this article (it is pretty short) and make it available on my web page for those who wish to examine crystal oscillators as applied to BA.

BTW, as an aside, it appears to me that the 813 crystal oscillator transmitter some of us have been building is none other than the Tri-Tet. I am not SURE about this, but it sure looks like it, and the article I mentioned above discusses the Tri-Tet in some detail.

The article discusses a) the grid-plate, b) Tri-Tet, and c) modified Pierce circuits, and the four tubes mentioned. All are connected as ECO and use regulated screen voltage of 150 v.

Of the three circuits, the modified Pierce is easiest on crystals with ALL tubes examined. Crystal currents in the other two circuits were significantly higher EXCEPT if using the 6AG7, with the grid-plate circuit being the worst.

One VERY interesting point about the Tri-Tet circuit concerns the tuned circuit in the cathode: if this is not tuned to the proper frequency, CRYSTAL CURRENT GOES BALLISTIC. I mention this because one of our list members mentioned destroying his only Novice crystals when he tried to get his ARRL 75 watt crystal controlled transmitter going when he was younger. That circuit is the Tri-Tet.

One further point concerning the 813 Xtal oscillator transmitter: the article makes mention of the fact that the pilot lamp in the crystal circuit must be shorted out for best keying, since the pilot lamp is a temperature variable resistor.

Lastly, the article also confirms what Bob Keyes NA4G urges, that if one is going to use "cathode" keying, one should return the grid leak to the CATHODE not directly to ground, since this actually is -B keying and results in much less chirp.

I hope others here find this information as interesting as I have.

Ken W7EKB

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Date: Tue, 27 Jan 1998 13:02:05 -0800 (PST)  
From: Ken Gordon <keng@idaho.edu>  
Subject: RE: Origin of CQ (fwd)

> Gang,  
> CQ originated on the telegraph lines - it does not mean "come quick"  
> (heck, the other fellow on the wire might have been dozens if not  
> hundreds of miles away - you think he's going to hop on his horse  
> and "come quick"?). It also does not mean "seek you" (we'd be using  
> "SY" if that were the case).  
>  
> Why the land-line operators chose those pair of letters is lost to  
> history.

Maybe because it has a rather nice rythm in land-line morse and sounded to them sort of like "shave and a hair cut..." does to us.

Ken W7EKB

---

Date: Tue, 27 Jan 1998 17:43:41 -0500 (EST)  
From: rdkeys@csemail.cropsci.ncsu.edu  
Subject: Re: RF Chokes for Shunt-Feed - Homebrew

> Hello All,  
>  
> I was reviewing some glowbug stuff about RF chokes from about a year  
> and a bit ago, because I want to crank out some plate chokes of  
> between 100 microHenries and 1 mH. However, it occurred to me that  
> although single-layer solenoid chokes will work well for series  
> feed in Hartleys, they might not work well in a parallel-feed  
> arrangement into a pi-network with a crystal oscillator or amplifier.

>From the theoretical standpoint it should not matter. Practically, there are one or two fine points to consider.

> Series-feed apparently places less voltage across the choke, and design  
> is less critical. Series resonance can heat up and destroy chokes  
> of solenoid design, in some cases, in parallel-feed.

The choke is designed with series resonance NOT at any desired operating frequency. It should be electrically at least a 1/4 wave line (for the obvious reason of transforming the high impedance to a low value). How it gets there is not really that important. The self resonant point should not be at any operating ham band, and the minimum coil should be about 2X or a little more the plate tank coil at the lowest frequency of operation. That is mostly what is required.

> I noted that Handbook transmitters and amplifiers of '50s design use  
> Pi-wound chokes exclusively at HF for lower power (1mH to 2.5mH).

Pi section is simple to wind in mass applications and reduce to a small size.

> High-powered amplifiers use what appears to be single-layer solenoid  
> chokes of 100 micro-Henries sometimes. Other times they used a  
> choke which, while not appearing pi-wound, doesn't seem to be

> solenoid-wound either.

100uh is about 2x the tank coil on an 80M transmitter. Sounds about right to me, as the minimum.

> One amplifier used a multi-band homebrew choke of solenoid design with  
> several closewound coils in series, each with less turns than the  
> previous one. It was made by winding on a cylindrical ceramic form,  
> leaving a 1/8" space between windings, but winding the whole choke as  
> one continuous length of wire. (80-40-20-15-10M)

If you are multiband, it can get hairy to wind it so that none of the sections are series resonant in any particular band. For a simple one or two bander or even a 3 bander, that should not be that much to worry about.

> 100 micro-Henry chokes of single-layer solenoid design seem practical  
> to wind, without being too large to stick under a chassis.

Yup.... lessee a coil of about 100 turns on a 1.5 to 2 inch form, close wound might be good for starters. The classics used 250 - 300 turns on a 2 inch form for 200 meters and down. If you are not running 160M, then 100-150 turns would work, and if 160, stick to 250-300 turns.

> Will single-layer solenoid chokes of 100 micro-Henries work well  
> in parallel-feed applications, for 75 Watts input or less? (80/40M)

It should work fine. Wind one, and run it key down for 10 minutes and remove power and feel for any hot spots on the coil. If there are any, open the windings up at that point for a space of 1/4 inch or so to keep that particular turn from heating.

> Would 1mH chokes be a minimum for the average (80/40m) glowbug rig?

Anything from 100-200uh on up should work. Wind your own by scramble winding the pies (not optimum, but it works), and that should do fine. A single scramble wound bobbin works very well for only 1 or 2 bands. Glue Mom's wooden thread bobbins together and use that for the sections that you need. There should be nothing wrong, inherently with a solenoid coil (be careful not to position it right next to the tank coil so it absorbs RF by induction. Underneath the chassis should do fine). I would expect spaced a little and at right angles from the tank coil would probably work, too. As a guesstimate for 80/40M operation, I would use a 1/2 or 3/4 or 1 inch coil form wound with no. 24 or 26 wire and put about 200-250 turns on it. Find a ceramic form if you have it, or a good piece of handy old PVC pipe should work fine at low HF and the 75 watt category (I like the black stuff cuz it looks like bakelite). Even a dry dowel rod soaked in paraffin should be OK.

Barry and others probably have some good ideas, too, or horror stories of the burning choke syndrome (actually, I have only burnt one in 30 years, and that was a mouldy 2.5mh pie thing that must have been wet - I will admit, I was a novice back then and did not seem to know too much).

Good luck

Bob/NA4G

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Date: Tue, 27 Jan 1998 15:44:20 -1000  
From: Jeffrey Herman <jeffreyh@hawaii.edu>  
Subject: Re: Origin of CQ (fwd)

> It's not that it "stands for" as in "is an acronym for". It's more  
> like "sounds like". Trying saying them out loud...  
>  
> CQ  
> Seek You  
> CQ  
> Seek You

Jim, you're taking the existing letters and trying to find a meaning in them. Prosigns are created the other way around! You begin with a phrase, such as "Word After" and then create a prosign from it: "WA."

Landline telegraph operators, in creating a general call, would not first consider the phrase "seek you" and then find an abbreviation for it. The voice equivalent of the general call is "Hello All Stations," not "Seek You."

BR ("Best Regards"),

Jeff KH2PZ

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Date: Tue, 27 Jan 1998 20:19:22 -0600 (CST)  
From: mjsilva@ix.netcom.com  
Subject: Re: Xtal Oscillator tubes/circuits...

On 01/27/98 12:53:49 Ken Gordon wrote:

>....  
>I have said for many years that the 6AG7 was the best oscillator tube  
>for use in our BA rigs, and this article proves it.  
>....  
>The 6V6, 6F6, 6L6, etc fall FAR short of the 6AG7 in this.  
>....  
>My question to the group, since I do not have any very thorough tube data  
>books, is what more modern tube would closely exhibit the important  
>parameters of the 6AG7, since the 6AG7 is rather large and needs an octal  
>socket? On a very surface examination, the 6CL6 comes pretty darned  
>close, but that tube is getting hard to get too. I am not particularly  
>concerned about plate dissipation, since low drive levels can be  
>amplified, but the other factors such as Gm, plate resistance,  
>interelectrode capacitances, internal shielding, etc., would seem to me to  
>be more critical.

Later Handbooks mentioned the 6AG7, 5763 and 6AH6 as the "best" tubes for oscillators. The 6CL6 is indeed derived from the 6AG7, and was also used quite a bit, as was the 12BY7A. Since the 6AH6 is derived from the 6AC7 I'd guess that this latter tube is also a good choice. What these tubes seem to have in common is high transconductance, moderate size and (I think I saw this mentioned in the QST article) "better shielding" than audio tubes, which perhaps refers to the grid-plate capacitance(?). The grid-plate capacitance of these tubes isn't actually that low -- that of the 6AG7 is about 20 times higher than the 6AU6, for example -- but I guess it's low enough to help isolate the oscillator circuit from the output.

I've sort of internalized the many oscillator schematics I've looked at to a single rule: use a video amplifier tube.

Another possibility I've thought of is one of the larger triode/pentode tubes such as the 6AW8A, with the triode used as a low-output oscillator and the pentode used as a buffer amp.

I hope others will chime in with their thoughts...

73,  
Mike, KK6GM

---

Date: Tue, 27 Jan 1998 19:34:39 -0800 (PST)  
From: Ken Gordon <keng@uidaho.edu>  
Subject: Re: Xtal Oscillator tubes/circuits...

>  
> Later Handbooks mentioned the 6AG7, 5763 and 6AH6 as the "best" tubes for  
> oscillators.

Thanks for reminding me. I remember reading that.

> The 6CL6 is indeed derived from the 6AG7, and was also used  
> quite a bit, as was the 12BY7A. Since the 6AH6 is derived from the 6AC7 I'd  
> guess that this latter tube is also a good choice.

Yes. After the 6AG7, the 6AC7 is my next choice. Very nice tube for an oscillator or high-gain, low-noise RF amp. However it hasn't got a very good dynamic range and is hard to AGC.

> What these tubes seem to  
> have in common is high transconductance, moderate size and (I think I saw  
> this mentioned in the QST article) "better shielding" than audio tubes,  
> which perhaps refers to the grid-plate capacitance(?). The grid-plate  
> capacitance of these tubes isn't actually that low -- that of the 6AG7 is  
> about 20 times higher than the 6AU6, for example -- but I guess it's low  
> enough to help isolate the oscillator circuit from the output.

Yes. That "better shielding" characteristic is something I really don't understand. That is, I don't exactly understand what is MEANT by that statement.

>

> I've sort of internalized the many oscillator schematics I've looked at to a  
> single rule: use a video amplifier tube.  
>

Yes. I had the same intuitive feeling about it.

> Another possibility I've thought of is one of the larger triode/pentode  
> tubes such as the 6AW8A, with the triode used as a low-output oscillator and  
> the pentode used as a buffer amp.

Yes, but then you don't get the real isolating effect of the true ECO circuit. The article I mentioned discusses the fact that with regulated screen voltage, one could adjust the plate voltage from 150 volts to 350 volts with no significant change in oscillator RF output level or keying characteristics IF the 6AG7 was used.

>  
> I hope others will chime in with their thoughts...  
>

Me too!!!!

Ken W7EKB

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Date: Tue, 27 Jan 1998 23:48:20 -0600 (CST)  
From: mjsilva@ix.netcom.com  
Subject: Re: Xtal Oscillator tubes/circuits...

On 01/27/98 19:34:39 Ken Gordon wrote:

>> Another possibility I've thought of is one of the larger triode/pentode  
>> tubes such as the 6AW8A, with the triode used as a low-output oscillator  
>> and the pentode used as a buffer amp.  
>  
>Yes, but then you don't get the real isolating effect of the true ECO  
>circircuit. The article I mentioned discusses the fact that with regulated  
>screen voltage, one could adjust the plate voltage from 150 volts to 350  
>volts with no significant change in oscillator RF output level or keying  
>characteristics IF the 6AG7 was used.

That raises an interesting question. Since an ECO circuit is a triode oscillator (screen grid = triode plate) "driving" the pentode plate with its electron stream, how does a real triode driving a separate pentode compare? Let's regulate the triode plate voltage and pentode screen voltage just as we would the ECO screen voltage. Now we have a stable, low-input triode oscillator driving a pentode buffer -- shouldn't that combination be as stable as an ECO? (I don't know the answer, but it's hard for me to imagine it wouldn't be).

BTW, another configuration I thought of using a triode/pentode tube is a pentode oscillator driving the triode as a doubler (re the discussion earlier about multiplying the VFO signal to prevent feedback at the VFO frequency). Then I'd go with a smaller pentode / larger triode combination like the 6EA8. I don't have much idea at all how well that would work...

73,  
Mike, KK6GM

---

Date: Wed, 28 Jan 1998 00:50:27 -0500  
From: JMcaulay <jmc@qnet.com>  
Subject: Re: Xtal Oscillator tubes/circuits...

In his post Tue, 27 Jan 1998 12:53:49 -0800 (PST) Ken Gordon said, among many important things (many of which have been removed by the amazing Snip-O-Ganza):

>I have said for many years that the 6AG7 was the best oscillator tube  
>for use in our BA rigs  
  
>what more modern tube would closely exhibit the important  
>parameters of the 6AG7, since the 6AG7 is rather large and needs an octal  
>socket? On a very surface examination, the 6CL6 comes pretty darned  
>close, but that tube is getting hard to get too.

Hi, Ken and everyone:

First of all, you'll get no argument from me about the 6AG7. Originally

designed for use as a video amplifier, the 6AG7 will oscillate in a "more-stable-than-most" fashion if you give it enough external feedback.

True, the marvelous little 6CL6 is the closest thing you'll get to a 6AG7 in a miniature device. However, there's one which even may be better as an oscillator, and some of the later non-solid-state AM Broadcast transmitters used them in that application. It's the 12BY7, and maybe you can find a few lying around. As we discussed here about a year ago, the 5763 also makes a very good oscillator; biggest difference between it and a 6CL6, as a practical matter, is that the 6CL6 can amplify a signal without going berserk now and then. 5763s do not like to amplify. Really.

Regards,  
John WA6QPL@amsat.org

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Date: Wed, 28 Jan 1998 10:00:05 +0100  
From: Jan Axing <janax@algonet.se>  
Subject: Re: RF Chokes for Shunt-Feed - Homebrew

I have found a "modern" substitute which at least works well in low power glowbugs. It's a 2.5 mH choke wound on a ferrite core intended for use in small switch mode power supplies. It works well in my 5-10W glowbugs in parallel feed pi tank circuits. They are available with current ratings around 100 mA. I don't have the manufacturer or type code right now but can look it up. Since it's wound on ferrite, series resonance is quite high.

73  
Jan, SM5GNN

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Date: Wed, 28 Jan 1998 02:10:33 -0800 (PST)  
From: Ken Gordon <keng@uidaho.edu>  
Subject: Re: Xtal Oscillator tubes/circuits...

> That raises an interesting question. Since an ECO circuit is a triode  
> oscillator (screen grid = triode plate) "driving" the pentode plate with  
> it's electron stream, how does a real triode driving a separate pentode  
> compare? Let's regulate the triode plate voltage and pentode screen voltage  
> just as we would the ECO screen voltage. Now we have a stable, low-input  
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> as stable as an ECO? (I don't know the answer, but it's hard for me to  
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> pentode oscillator driving the triode as a doubler (re the discussion  
> earlier about multiplying the VFO signal to prevent feedback at the VFO  
> frequency). Then I'd go with a smaller pentode / larger triode combination  
> like the 6EA8. I don't have much idea at all how well that would work...

OK, Mike, time to experiment!!!! Get out the soldering iron and lets see what you come up with.

I am working on my pet PP 304TLs at the moment.

Ken

---

Date: Wed, 28 Jan 1998 12:17:26 +0100  
From: Jan Axing <janax@algonet.se>  
Subject: Re: Xtal Oscillator tubes/circuits...

mjsilva@ix.netcom.com wrote:

> I've sort of internalized the many oscillator schematics I've looked at to a  
> single rule: use a video amplifier tube.

Seconded. A tube still available in Europe is EL83, a video output pentode. Nearest equivalent is 6CK6. I think one feature is important, the suppressor grid should not be connected to the cathode. EL83 is fairly steep at 10 mA/V, see data at <http://www.algonet.se/~janax/sel83.htm>

>  
> Another possibility I've thought of is one of the larger triode/pentode

> tubes such as the 6AW8A, with the triode used as a low-output oscillator and  
> the pentode used as a buffer amp.  
>  
> I hope others will chime in with their thoughts...

Yes, 6DX8/ECL84 would be one along with the more known 6BM8/ECL82 and 6GW8/ECL86.  
The pentode section in 6DX8/ECL84 is also a steep video output pentode.  
Data available at <http://www.algonet.se/~janax/tubedata.htm>

73  
Jan, SM5GNN

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Date: Wed, 28 Jan 1998 07:18:53 -0400  
From: "Brian Carling" <bry@mnsinc.com>  
Subject: Re: Xtal Oscillator tubes/circuits...

Jan I have to say that this Tube Data web system is one of the best  
things I have seen on the Internet!!

GREAT WORK!

On 28 Jan 98 at 12:17, Jan wrote:

> Yes, 6DX8/ECL84 would be one along with the more known  
> 6BM8/ECL82 and 6GW8/ECL86. The pentode section in 6DX8/ECL84 is  
> also a steep video output pentode. Data available at  
> <http://www.algonet.se/~janax/tubedata.htm>  
>  
\*\*\*\*\*  
\*\*\* 73 from Radio AF4K/G3XIQ Gaithersburg, MD USA \*  
\*\* E-mail to: bry@mnsinc.com \*  
\*\*\* ICQ 6124470 \*\*\*  
\*\* <http://www.mnsinc.com/bry/> \*  
\*\*\*\*\*  
AM International #1024, TENTEN #13582. GRID FM19. Using a SWAN 250 on 6m,  
Other rigs: Valiant, DX-60/HG-10, FT-840, TM-261A, Ameco TX-62, Gonset Comm. III  
TEN-TEN #13582, DXCC #17,763 Bicentennial WAS

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End of glowbugs V1 #232  
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